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attempt to give titles of even the most important of the literature on the subject.—H. W. NORRIS, Grinnell, Iowa.

EXPLANATION OF FIGURES, PLATE XX.

Abbreviations used.

a, archesporium; *ad*, daughter cells of archesporium; *ant*, antipodal cells; *axf*, fibrovascular bundles of the axis of the flower; *e*, embryo-sac; *em*, embryo; *end*, "endodermis;" *esp*, endosperm; *f*, funiculus; *i*, integument; *n*, nucellus; *o*, ovule, *of*, fibrovascular bundle of ovule; *ov*, cavity of ovary; *v*, part of vermiform extension of protoplasm of an antipodal cell.

Figs. 1–16 are of *Grindelia squarrosa*.

Fig. 17 is of *Helianthus annuus*.

ZOOLOGY.

Notes on a Nematode Parasite from the Chipping Sparrow (*Spizilla socialis*).—I have received from Mr. Wm. B. Marshall, Albany, N. Y., a parasite from the thoracic cavity of the chipping sparrow which appears to be new.

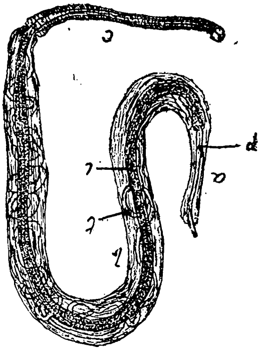

FIG. 1.

The sparrow was shot by Mr. Marshall on May 14, 1892, and the worm was found lying directly against the heart of the bird. The color of the worm while alive was a brilliant red. It is a male; the head is damaged but otherwise the specimen is perfect.

Although the diameter of this specimen is proportionally many times greater than that of any recorded species of *Trichosoma*, the body being not at all hair-like; and although the posterior spicule and its sheath present some difficulties when compared with descriptions of the various species of *Trichosoma* and the related genus *Trichocephalus*, I prefer to refer the specimen to the former genus, to which it is certainly closely allied, rather than to erect a new genus for its accommodation. I therefore place the specimen provisionally in the genus *Trichosoma* and propose the name *Trichosoma rubrum* for it.

The specimen has the following characters: Body cylindrical, with somewhat yielding walls, and presenting three distinct regions; an anterior region, slender and containing the œsophagus; a thicker median region, containing the dark-brown intestine and the convoluted generative tube; a posterior slender region sharply marked off from the median region by a constriction, containing the uncolored posterior portion of the intestine and the posterior portion of the generative tube. The latter region terminates in an enlarged and gibbous copulatory bursa, which is denticulate with about two rows of blunt teeth on its rim, and contains a single, club-shaped spicule. The anterior and median regions are smooth or with faint longitudinal striations; the posterior region is transversely wrinkled.

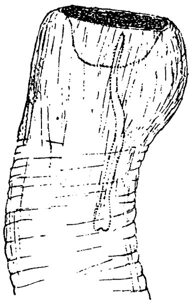
FIG. 2.

The œsophagus is straight, slender and communicates by a rounded base with the intestine, which is broader than the œsophagus, abruptly truncate at its origin and continues of nearly uniform size throughout the median portion of the body. The walls of the intestine in the median region of the body were seen to contain polygonal, mostly hexagonal, cells [Fig. 5]. The intestine loses its dark-brown color as it passes from the median to the posterior region of the body. The anal aperture is at the base of the copulatory bursa [*a*, Fig. 3]. The generative apparatus is a single tube which extends from the anterior end of the intestine to the copulatory bursa, where it opens beside the papillary termination of the intestine, [*vd*, Fig. 3]. In the central region of the body it is much convoluted; in the posterior region of the body it is nearly straight and thick-walled.

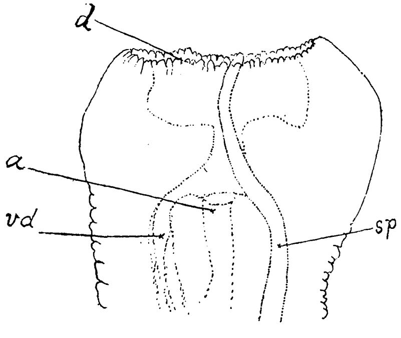

FIG. 3.

The spicule [Figs. 2, 3, 4], is club-shaped, somewhat spiral in its middle portion, about twice the length of the bursa and less than one-fifth the length of the posterior division of the body.

The following measurements were made on the specimen in acetic acid:

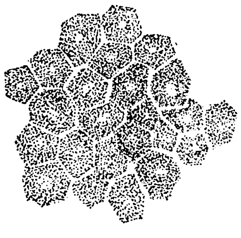
FIG. 5.

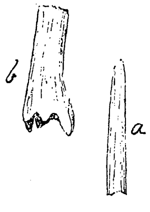

FIG. 4.

	Millimeters.
Length	25.00
Length of anterior division or neck	2.20
Length of median division, body proper . .	17.30
Length of posterior division	5.50
Diameter, median	0.90
Diameter, anterior end	0.42
Diameter, 1mm. from anterior end . . .	0.32
Diameter of bursa	0.36
Length of spicule	0.42
Diameter of spicule, apex	0.01
Diameter of spicule, middle	0.015
Diameter of spicule, base	0.04

The anterior division of the body or neck passes by rather abrupt enlargement into the body proper. The diameter of the œsophagus at base is 0.18 mm; and the breadth of the intestine at its anterior end is 0.3 mm.

The posterior, transversely-wrinkled portion may, possibly, be retractile, although the appearance is against this supposition.

The single specimen, upon which this description is based, is in the possession of Mr. Wm. B. Marshall, State Museum, Albany, N. Y.

EXPLANATION OF FIGURES.

Fig. 1. Specimen, head missing, x 6. *a*, neck; *b*, body; *c*, posterior region of body separated from body proper by a constriction; *p*, œsophagus; *i*, intestine; *t*, reproductive tube.

Fig. 2. Bursa and spicule, x 75.

Fig. 3. Bursa, optical section, x 150, *a*, anal aperture; *d*, denticulate rim; *sp*, spicule; *vd*, termination of reproductive tube.

Fig. 4. Portions of spicule, x 200, *a*, apical, and *b*, basal portions.

Fig. 5. Polygonal cells in wall of dark-brown portion of intestine, x about 150.

EDWIN LINTON, PH. D.
Washington and Jefferson College.

Washington, Pa., June 1, 1892.